

### REMARKS

Claims 1, 10, 12-52, 55, 60, 62-107, 109-117, 119-131, 133-141, 143-153, 155-166, 168-170, and 172-184 are pending. Claims 1 and 52 are amended to incorporate language from claim 5. Claims 12-16, 22-25, 27-36, 39-43, 45, 47-51, 55, 60, 62-65, 67-69, 76, 78-81, 83-92, 97, 101-106, 109, 110, 113, 114, 116, 117, 119, 127, 133, 137, 138, 140, 141, 143, 150, 151, 155, 168, and 169 are amended to change dependency necessitated by claim cancellations. Claims 4-9 and 56-59 are canceled. Claims 14, 24-31, 43-45, 47-51, 56-59, 64, 66-69, 76, 77, 80-87, and 102-107, 109-117, 119-131, 133-141, 143-153, 155-166, 168-170, and 172-184 are withdrawn.

#### Rejections Under 35 U.S.C. § 112

Claims 4, 5, 10, 12, 13, 15-23, 32-42 and 46 were rejected under 35 U.S.C. § 112, second paragraph as allegedly indefinite due to the dependency from canceled claim 2. The rejection is moot in view of the present amendments changing dependency from claim 2 to claim 1.

Claims 55, 60, 62, 63, 65, 70-75, 78, 79, and 88-101 were rejected under 35 U.S.C. § 112, second paragraph as allegedly indefinite due to the dependency from canceled claim 53. The rejection should be resolved by the present amendments changing dependency from claim 53 to claim 52.

Claims 12 and 13 were rejected under 35 U.S.C. § 112, second paragraph as allegedly indefinite due to the dependency from canceled claim 11. The claims are amended to change the dependency from “claim 10 or 11” to “claim 10”. Withdrawal of the rejection is respectfully requested.

Claims 62 and 63 were rejected under 35 U.S.C. § 112, second paragraph as allegedly indefinite due to the dependency from canceled claim 61. The rejection is moot in view of the amendment to change the dependency from “claim 60 or 61” to “claim 60”.

#### Rejections Under 35 U.S.C. § 103

Claims 1, 4, 10, 15, 22, 23 and 32-42 were rejected under 35 U.S.C. § 103(a) as allegedly obvious over Photochem. Photobiol. 1997, 66(4) 405-412 (“the Faustino

reference”) in view of Biotechnol. And Bioeng. 2001, 73, 135-145 (“the Lee article”). Applicants have amended claim 1 to incorporate language from claim 5 into claim 1. Because claim 5 is not subject to the rejection, withdrawal of the rejection is respectfully requested.

Furthermore, in regard to the Faustino reference, the Office asserts that this reference teaches that  $\epsilon_{\max}$  increased by a factor of two for a certain dimmer porphyrin compared to the monomeric porphyrin. This is not unexpected because the dimmer has twice the concentration of porphyrin than the monomer. Thus, there is no enhancement in the optical properties shown by the cited art. For at least this reason, the rejected claims are not obvious in view of the cited art.

Claims 52, 54, 55, 60, 65, 74, 78, and 68-101 were rejected under 35 U.S.C. § 103(a) as allegedly obvious over the Faustino reference in view of the Lee article and further in view of U.S. Patent No. 6,159,445 (“the Klaveness patent”). The amendment to claim 1 was also made to claim 52. Thus, for reasons analogous to those discussed in the preceding paragraph concerning claim 1, the rejection should be withdrawn.

Claims 1, 4, 5, 10, 12, 13, 15-23, 32-42, 46, 52, 55, 60, 63, 65, 70-75, 78, 79, and 88-101 were rejected under 35 U.S.C. § 103(a) as allegedly obvious over the Klaveness patent and U.S. Patent No. 6,123,923 (“the Unger patent”) in view of the Lee article and further in view of the Chem. Eur. J. 1995, 1, 645-651 (“the Lin article”). To establish a *prima facie* case of obviousness, there must be some reason, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine reference teachings. *KSR International Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007). Moreover, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The reason to make the claimed combination, and a reasonable expectation of success, must be found elsewhere than in Applicants disclosure, such as in the prior art, the nature of the problem to be solved, or in the knowledge/understanding of the person of ordinary skill in the art. MPEP § 2143; *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Thus, the applicant’s disclosure may not be used as a blueprint from which to construct an obviousness rejection. Furthermore, according to MPEP § 2141.02, “[i]n determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences

themselves would have been obvious, but whether the claimed invention as a whole would have been obvious.” Applicants submit that the instant rejection does not meet these requirements.

The Klaveness patent is alleged to disclose contrast agents that have a absorption and/or emission in the 600 to 1300 nm range. Office Action at page 8. Applicants note, however, that the Klaveness patent lists a laundry list encompassing a large number of compositions to be used in this function. *See*, the Klaveness patent at column 15, line 63 to column 16, line 20. While porphyrins are mentioned generically, there is no teaching or suggestion for the use two porphyrin moieties linked by a hydrocarbon bridge having at least one unsaturated moiety much less such a moiety that exhibits an integral emission oscillator strength that is greater than the emission oscillator strength manifest by either one of the porphyrin moieties individually. The Klaveness patent is also defective in its teaching concerning the instant amphiphilic copolymers that have at least one hydrophilic polymer bonded to at least one hydrophobic polymer. As was the case with the contrast agent, the list of carriers for the contrast agent is quite extensive. *See*, the Klaveness patent at columns 12-14 and 17. Based on the extensive list of possibilities, it would not be obvious for one skilled in the art to select the amphiphilic block copolymers of EP 166596 (column 17, lines 49-50 of the Klaveness patent) for use as a vehicle to carry the contrast agent. Nor is there any guidance or direction to pick and choose the particular combinations that would allow one to arrive at the claimed invention. In short, no element of any claim under examination can clearly be found in the Klaveness patent. Such shortcomings in a primary reference are not consistent with obviousness.

The Unger patent, like the Klaveness patent, generically discloses porphyrins among an extensive list of photoactive agents but provides no teaching or suggestion for the use two porphyrin moieties linked by a hydrocarbon bridge having at least one unsaturated moiety much less such a moiety that exhibits an integral emission oscillator strength that is greater than the emission oscillator strength manifest by either one of the porphyrin moieties individually. Synthetic vessel forming material are selected from a large list of possibilities where no preference is stated for this possibility. *See*, column 17, line 10 to column 37, line 19 of the Unger patent. In the Unger patent, like the Klaveness patent, there is no clear teaching of all elements of any claim under examination.

The Office seeks to cure these defects by asserting two additional references. The Lee article is used to provide a disclosure of amphiphilic diblock copolymer and to assert favorable properties attributed to these compositions. The Lin article is asserted to teach certain linked porphyrins. In the present reconstruction, however, *all* elements from the teachings of the primary reference are replaced by components from the additionally cited art or selected from an extensive list within the primary patent. Based on these significant changes to and picking and choosing from the disclosures of the Klaveness and Unger patents, it seems that the instant invention can only be derived at through the use of impermissible hindsight based on Applicant's blueprint. Because hindsight reconstruction must be made only with knowledge available to one skilled in the art at the time of the invention and independent of Applicant's blue print, the rejection should be withdrawn.

In addition, there is nothing in the Lin article that suggests that the compositions would be an improvement over the moieties used in the primary references. As noted in the instant specification, the multiporphyrins of the instant claims can exhibit an integral emission oscillator strength that is greater than the sum of the oscillator strengths of the monomers. See, paragraph 11 spanning pages 4-5. The Lin article teaches nothing about this enhanced property which might make the multiporphyrins of the instant claims to be attractive for use in the methods of the Unger patent.

In view of the foregoing, Applicants submit that the instant claims are not obvious in view of the cited art.

#### **Obviousness Type Double Patenting Rejection**

Claims 1, 4, 5, 10, 12, 13, 15-23, 32-42, 46, 52, 55, 63, 65, 70-75, 78, 79 and 88-101 were rejected on the ground of alleged nonstatutory obvious-type double patenting over the claims of copending U.S. Patent Application No. 10/467,107. Although Applicants do not necessarily agree with the rejection, deferral of the rejection is requested pending the identification of allowable subject matter so that Applicants may address such a rejection in view of the relevant claims.

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### Conclusions

The foregoing is believed to constitute a complete and full response to the Office Action of record. Accordingly, an early and favorable reconsideration of the rejections and an allowance of all of pending claims is earnestly solicited. Should the Examiner determine that any further action is necessary to place the Application in condition for allowance, the Examiner is encouraged to contact the undersigned by telephone.

Respectfully submitted,

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